

the fresh water, falling on the surface of the much heavier brines, stays on the surface, unless the winds interfere, until a gradual diffusion brings about a distribution of the added waters. Death does not seem to result from bursting, as one might expect, but from distension, which produces mechanical injuries to the structure of a living cell from which it cannot recover. What is actually accomplished by the pulling apart of the solid constituents of the colloidal complex which we call living protoplasm, no one can yet tell. But we can imagine or even set up mechanical models and on these observe the result of such changes as are effected by differences in the amounts of water supplied to and contained within the cells.

The above sketch of what we have learned by the studies of brines and their contents, by a group of men interested in them at Stanford, leads us to hope that the continued investigation of the organisms living in extraordinary environments will throw considerable light upon the actual conditions of life and the physical and chemical conditions prevailing in living organisms.

Stanford University,
December 9, 1927.

THE BOTANICAL EXPLORERS OF CALIFORNIA.—II.

WILLIS LINN JEPSON

Joseph Whipple Congdon

The lower Santa Rosa Valley in the year 1880 presented a rather different aspect from that of the present day. The level plain, stretching northerly from the marshy tule-inhabited shores of San Pablo Bay, was filled with fields of wheat and barley, diversified here and there by wild bits of land where the native flora still persisted rankly and made fine botanizing. In the spring and summer days of that year, a botanist, earning a livelihood as a lawyer in the neighboring village of Petaluma, searched the fields and hillslopes for interesting plants. One day, July 1, 1880, his eager gaze discovered a gray plant in the grassy formation which he knew belonged to the Borage family but seemed unusual. The specimens which he gathered came eventually into the hands of Professor Edward Lee Greene who named the plant as new, *Allocarya vestita*, in the botanical journal *Erythea* (3:125,—1895). It was the first of a long series of interesting discoveries to be made by Joseph W. Congdon, who continued to explore California for a life-time. His career had many points of interest and we now set down what is known of it.

Joseph Whipple Congdon, whose father was of Quaker stock, was born in Pomfret, Connecticut, April 12, 1834. He entered Brown University and graduated at the head of his class in 1855. After leaving college he turned to teaching as a stepping stone to law, was admitted to the bar in Providence, Rhode Island, in 1860, and practiced there until 1879. In 1878 and 1879 he was a member of the Rhode Island House of Representatives. He came to California in 1880, taught school for a short time as so many young

lawyers have done before him and since, and then practiced law the remainder of his life, or nearly. The study of botany was, however, always an absorbing recreation. Under the influence of his aunt, Frances H. Green, he had developed at a very early age a strong interest in plants and at a later time, in collaboration with her, he published a *Class Book of Botany*, an effort which antedated the first edition of Gray's *Lessons* (1857). It is an interesting old-time text. The title-page bears the motto, Science is only the interpreter of Nature.

In California he was known as a keen-eyed collector and obtained many rare or local plants overlooked by others. A few interesting examples may be noted.



JOSEPH WHIPPLE CONGDON

He discovered *Eleocharis rostellata* Torr., at San Francisco (not otherwise known outside of Southern California and the desert), *Salicornia europea* L. at Palo Alto, and *Carex viridula* Michx. at Inglewood Swamp, Mendocino County. While he collected at scattered localities in the state, for the most part his collecting was done in the neighborhood of his places of residence. He was at Petaluma practicing law for about a year in 1880, at Visalia teaching in 1881, and finally again resumed the practice of law and made his home at Mariposa town from 1882 to 1905. From this center he botanized thoroughly the region of Mariposa County and every summer for many years made a collecting trip to Yosemite or to the High Sierras above Yosemite. He was on the summit of Mt. Warren, Mono County, a high peak (12,337 feet) east of the main Sierran axis, on August 26, 1894. His duplicates were generously and widely distributed. A large number of his plants are in the California and Stanford herbaria. After his death his herbarium of about 10,000 sheets was purchased, through the interposition of Dr. Frederic Clements, from his widow by the University of Minnesota which realized for her the sum of \$250.00.

Like many devoted students of natural history Joseph Congdon was of very unworldly temperament and altogether too modest and retiring to make a lawyer, at least a financially successful one. He was by nature a quiet student and had a gift for languages. It is said that he read seven languages and spoke five. The study of Latin was begun at nine years of age, so that he got a good start. He died

April 5, 1910, at Waterman, Washington. The following California plants will help to preserve his memory: *Mimulus Congdonii* Robinson; *Carex Congdonii* Bailey; *Godetia viminea* var. *Congdonii* Jepson; *Eriophyllum Congdonii* Brandegee; *Ribes Congdonii* Heller; *Eatonella Congdonii* Gray; *Trisetum Congdonii* Scribner & Merrill; *Carex Congdonii* Bailey; *Lomatium Congdonii* Coulter & Rose; *Sedum Congdonii* Eastwood; *Astragalus Congdonii* Watson. In the Manual of the Flowering Plants of California the writer dedicated to him the Crassulaceous genus *Congdonia*, based on *Sedum pinetorum* Bdg.

The following list contains all of his writings known to me and probably all that are of essential interest: Analytical Class Book of Botany (Part I. Elements of Vegetable Structure and Physiology by Frances H. Green. Part II. Systematic Botany; Flora of the Northern States by Joseph W. Congdon. 1855). Mariposa County as a Botanical District (*Zoe*, 2: 234-236,—1891; 3: 25-43,—1892; 3: 125-131,—1892; 3: 314-325,—1892). Views of a working botanist on the new American Rules of Nomenclature (*Zoe*, 3: 339,—1892). Some California Plants (*Zoe*, 5: 133-135,—1901). New Species, Principally from Mariposa County, California (*Erythea*, 7: 183-189,—1900). A New Lupine from California (*Muhl.* 1:38,—1904). Appreciative notices of his life appeared at the time of his death in the Seattle Daily Times, Apr. 16, 1910, and The Evening Bulletin, Providence, Rhode Island, May 4, 1910.

Berkeley, February, 1921.

THE ANNUAL DINNER FOR 1927

The Society met for the annual dinner on Saturday evening, February 12, 1927, in the Student Union on the University of California campus. Dr. W. W. Robbins of the Davis branch of the College of Agriculture of the University of California presided as toastmaster. Mr. Anson S. Blake discussed the possibilities of a native plant reserve on Howell Mountain to be kept in its natural condition. The problem of botany versus "biology" in the high schools of California was pleaded by Mr. F. W. Koch, head of the Science Department in the Galileo High School, San Francisco. Brine organisms was the subject of a short discourse by Professor George J. Peirce of Stanford University. Professor J. H. Priestley of the University of Leeds, England, talked of the pleasures of botanical travel in California. The Society paused for a moment in its regular program to give salutation to Mr. S. B. Parish, who had recently celebrated his eighty-ninth birthday. The main address of the evening was a lecture upon the botanical results of the Third Asiatic Expedition, illustrated by motion pictures, given by Dr. R. W. Chaney of the Carnegie Institution. After the lecture a reception was tendered Mr. and Mrs. Priestley. Music was provided under the direction of the Society's musician-laureate, Mr. W. W. Carruth, of Oakland. There were seventy-six members present.—
W. L. JEPSON.